



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/578,352

12/29/2008

Shigehiro Yamaguchi

12480-000179/US

8964

30593

7590

12/15/2010

HARNESS, DICKEY & PIERCE, P.L.C.

P.O. BOX 8910

RESTON, VA 20195

EXAMINER

NWAONICHA, CHUKWUMA O

ART UNIT

PAPER NUMBER

1621

MAIL DATE

DELIVERY MODE

12/15/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/578,352	Applicant(s) YAMAGUCHI ET AL.	
	Examiner CHUKWUMA O. NWAONICHA	Art Unit 1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1,2,5-18 and 20 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19 is/are allowed.
- 6) ☒ Claim(s) 3 and 4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. No English Translation of the Priority Document.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>5/5/06, 7/11/06, 9/9/09 & 4/15/10</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Current Status

Claims 3, 4 and 19 are actively pending in the application.

Election/Restrictions

Applicants' election, filed on 12 November 2010 without traverse of Group 2 (claims 3, 4, and 19) is acknowledged.

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

This application is a 371 of PCT/JP2004/016433 11/05/2004.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 3 and 4 are indefinite because the variable R⁵ is defined as hydrogen and variable o is an integer of 0 to 2. Since the claims define substituent (R⁵)_o as hydrogen, alkyl, etc. and then indicates that o includes 0, there is an open valence on at least one

Art Unit: 1621

of the carbons to which R⁵ is attached. It is unclear what structure is claimed when R⁵ is neither hydrogen nor any of the other substituents recited in the claims. Similarly, claim 4 defines R⁴ as including hydrogen and other groups, and then allows for open positions on the rings when variable o is 0. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

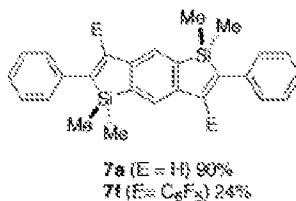
A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 3 and 4 are rejected under 35 U.S.C. 102(a) as being anticipated by Xu et al.

{General Silaindene Synthesis Based on Intramolecular Reductive Cyclization toward New Fluorescent Silicon-Containing π -Electron Materials, Organic Letters, 2004, Vol. 6, No. 21, 3707-3710}.

Xu et al. disclose Applicants claimed polycyclic fused ring as shown below.



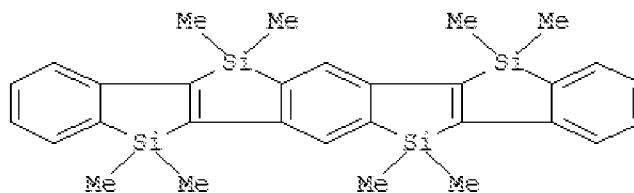
Allowed Claims

Claim 19 is allowable over the prior art of record.

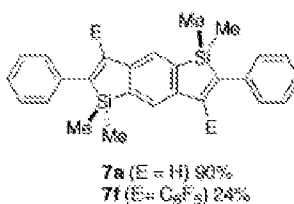
Reason For Allowance

The following is an examiner's statement of reasons for allowance: A search of the prior art failed to uncover any reference that anticipates or renders obvious a polycyclic fused ring of the general formula 17; wherein all the variables are as defined in the claims.

The closest prior art is Yamaguchi et al., {Bis-Silicon-Bridged Stilbene Homologues Synthesized by New Intramolecular Reductive Double Cyclization, Journal of the American Chemical Society (2003), 125(45), 13662-13663 and Xu et al. {General Silaindene Synthesis Based on Intramolecular Reductive Cyclization toward New Fluorescent Silicon-Containing π -Electron Materials, Organic Letters, 2004, Vol. 6, No. 21, 3707-3710}. However, Yamaguchi et al. teach a polycyclic fused ring type conjugated organic compound wherein the polycyclic fused ring is further fused with benzosilole group while Applicants claim polycyclic fused ring type conjugated organic compound substituted with Ar_3 ; wherein Ar_3 is an aryl group, a substituted aryl group, a bivalent oligoarylene group, a bivalent substituted oligoarylene group, a monovalent heterocyclic group, a monovalent substituted heterocyclic group, a monovalent oligoheterocyclic group, or a monovalent substituted oligoheterocyclic group.



On the other hand, Xu et al. teach a polycyclic fused ring type conjugated organic compound wherein the polycyclic fused ring is substituted phenyl group while Applicants claim polycyclic fused ring type conjugated organic alcohol compound substituted with Ar_3 ;



These compounds are different from each other and the compounds are expected to possess different chemical and physical properties, and would not have been suggested to one of ordinary skill.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chukwuma O. Nwaonicha whose telephone number is 571-272-2908. The examiner can normally be reached on Monday thru Friday, 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph McKane can be reached on 571-272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For

Art Unit: 1621

more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Chukwuma O. Nwaonicha/
Examiner, Art Unit 1626

/YONG CHU/
Primary Examiner, Art Unit 1626